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10/749,451	12/31/2003	Michael D. Grah	D-43584-01	9833

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EXAMINER

BUTLER, PATRICK

ART UNIT PAPER NUMBER

1732

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/749,451	GRAH, MICHAEL D.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Patrick Butler	1732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-59 is/are pending in the application.  
 4a) Of the above claim(s) 17,25,26,35 and 39-59 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-16, 18-24, 27-34, and 36-38 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>31 Dec. 2003, 19 Jul. 2004, 08 APRIL 2005, 29 APRIL 2005</u>              | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I, Claims 1-38 in the reply filed on 21 July 2005 is acknowledged.

This application contains claims directed to the following patentably distinct species of the claimed invention:

- A. A three-layer film (Claim 18) and one layer film (Claim 17)
- B. At least 50% visible light (Claim 24), at least 50% infrared light (Claim 25), and at least 50% ultraviolet light (Claim 26).
- C. Without causing perforation (Claim 36) and with causing perforation (Claim 37).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Claim 1 appears to be generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Daniel Ruble on 16 September 2005 a provisional election was made with traverse to prosecute the invention of three layers, claim 18; visible light, Claim 24; and not causing perforations, Claim 36. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17, 25, 26, and 37 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### **Double Patenting**

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In*

re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-16, 18-24, 27-34, and 36-38 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 5, 13, 24, 30-31 of copending Application No. 10/452,892 and 2004/0241482. Although the conflicting claims are not identical, they are not patentably distinct from each other because they appear to comprise overlapping subject matter. The co-pending application is a film (article) comprising a second layer comprising at least 50-wt% of one or more tie polymers and at least 0.5-wt% of nano-particles, while the instant applicant is a method of activating the shrink characteristic of a package film, wherein the film comprises at least 0.001-wt% of a single-walled nanotube material. The instant applicant is a method while the co-pending(s) is an articles, however per the teachings of the disclosure of 10/452, 892 and US Application Publication 2004/0241482 the second layer is obtained by the same method as found in the instant claims—see co-pending application [0016], which teaches said layers (including the

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second layer) may be exposed to irradiation and [0138] teaches optional exposure to energetic radiation. Additionally 10/450,892 and 2004/0241482 teaches that the nano-particles can be carbon-based materials, such as single-walled nanotubes—see [0051]. Per [0029] of 10/452,892 said second layer comprises a dispersion of nano-particles dispersed therein; said weight percentages of the nanoparticle/tie layer can be found. These correspond to those claimed in the instant invention. The amount of a said nanoparticles can be found in [0041] of the co-pending application, wherein these correspond to the claimed amounts of nano-tubes. It appears that the polymers taught 10/452,892 and 2004/0241482 and in the instant claims are within in the broad teaching of film and filmmaking polymers. Additionally, since the method of the instant invention can be found in the claims/teachings of the co-pending applications the properties claimed by the instant invention should inherently be found in the co-pending applications. Therefore it would have been obvious for a skilled artisan to obtain the instantly claimed method from the teachings of the above listed co-pending applications in the absence of evidence to the contrary and/or unexpected results.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-16, 18-24, and 27-34, and 36-38 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-60 copending Application No. 10/725,209 and 2005/0119364. Although the conflicting claims are not identical, they are not patentably distinct from each other because they appear to comprise overlapping subject matter. The differences appears

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to be the instant application is a method of shrinking a film, while the co-pending applications are directed to a method of increasing the gas transmission rate of a package film. The examiner deems these overlap because both describe exposing films comprising at least 0.001% by weight of a single-walled nanotube to irradiation. While the co-pending application does not specify films made from thermoplastic polymer, the co-pending application's claim encompasses in the films of the instant claims. Instant Claims 1-7 can be found in the disclosure of the co-pending applications at page 20-22 by teaching heat shrinkable film being treated with radiation as in instant claims. Instant Claims 8-12 and 19-23 may be found in copending claims 2-11, 26, 27, and 29. Instant Claims 13 and 14 may be found in copending claims 10, 11, 20, 41 and 42. Instant Claims 15 and 16 may be found in claims 18, 45, and 58 (ethylene, vinyl). Instant Claim 18 may be found in Claims 54-56 (two and at least one additional layer). Instant Claim 24 may be found in Claim 30. Instant Claims 28-32 may be found in Claims 37, 38, and 45-47. Instant Claims 33-34 may be found in Claim 41 and 42. Instant Claim 36 may be found in [0122]. Instant Claims 37 and 38 may be found in Claims 43 and 44.

Therefore it would have been obvious for a skilled artisan to obtain the instantly claimed method from the teachings of the above listed co-pending applications in the absence of evidence to the contrary and/or unexpected results.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-16, 18-24, 27-32, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Grah et al (2004/0241482).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to Claims 1-5, Grah discloses using various thermoplastics with SWCNM [0011]. Multiple shrink characteristics are taught with respect to shrinkage percentage and pressure [0111,0113]. Radiation is taught, which would induce the shrinkage [0138].

With respect to Claims 6 and 7, irradiation is taught, which would limit shrinkage ability [0114].



With respect to Claims 8-12 and 20-23, irradiation is taught [0138] with given amounts, which would necessarily be a function of various quantities based on intensity and duration, as samples are given [0140].

With respect to Claims 13-16, the content of SWCNT in each layer and the polymer content of ethylene (polyolefin) and vinyl acetate (vinyl plastic) are taught polymers to use [0011, 0029].

With respect to Claim 18, an example of three layers is given [0058].

With respect to Claim 19, thickness variation, including greater than 1 mil is given [0026].

With respect to Claims 24 and 27, energetic radiation treatments are taught, which includes visible light [0138] without limiting the duration or applications.

With respect to Claims 28-32, various quantities of SWCNM are taught which read on the claims [0041].

With respect to Claim 36, there is not teaching of creating perforations.

Claims 1-16, 18-24, 27-34, and 36-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Grah et al (2005/0119364).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to Claims 1-5, Grah discloses using various thermoplastics with SWCNM [0007]. Multiple shrink characteristics are taught with respect to shrinkage percentage and pressure [0097,0099]. Radiation is taught, which would induce the shrinkage [0113].

With respect to Claims 6 and 7, irradiation is taught, which would limit shrinkage ability [0110].

With respect to Claims 8-12 and 20-23, radiation is taught with given amounts, including intensity and duration [0108,0113,0113].

With respect to Claims 13-16, the content of SWCNT in each layer and the thermoplastic content of ethylene (polyolefin) and vinyl acetate (vinyl plastic) are taught polymers to use [0023, 0037, 0040].

With respect to Claim 18, an example of three layers is given [0015].

With respect to Claim 19, thickness variation, including greater than 1 mil is given [0014].

With respect to Claims 24 and 27, energetic radiation treatments are taught, which includes visible light and pulsing the light [0107,0109].

With respect to Claims 28-32, various quantities of SWCNM are taught which read on the claims [0023].

With respect to Claims 33 and 34, structural disruption is taught at various levels of completeness [0120-0122].

With respect to Claim 36, the structure is optionally not perforated [0122].

With respect to Claims 37 and 38, discontinuous regions containing thermoplastic and SWCNM are taught [0026].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 13-16, 18, 19, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel et al. (US Patent No. 6,355,287) in view of Dupire (US Patent No. 6,331,265).

With respect to Claims 1, 2, and 3 Noel teaches using a film made of a thermoplastic polymer with a free shrink of 15-60 percent using ASTM D 2732 (providing a film comprising one or more polymers wherein the film has a free shrink at 185°F in at least one of the machine or transverse directions of at least 5% [Claim 1]/20% [Claim 2]/40% [Claim 3] measured according to ASTM D 2732) and using radiation to seal the film, which shrinks to the meat (exposing the film to an amount of radiation energy effective to activate the shrink characteristic of the film) (see col. 1, lines 58-62; col. 2, lines 46-49; col. 5, lines 55-58; col. 7, lines 53-60).

Noel does not explicitly teach adding at least about 0.001 weight percent of single-walled carbon nanotube material based on the weight of the film.

Dupire teaches adding carbon nanotubes into a polymer mixture reinforces the polymer (see Abstract). Dupire teaches that single-wall and multi-wall carbon

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nanotubes are nanotubes known to be used. The quantity of the quantity of carbon nanotubes added to a given quantity of polymer is not particularly limited (at least about 0.001 weight percent of single-walled carbon nanotube material based on the weight of the film) (see col. 4, lines 32-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Dupire's single wall carbon nanotubes in Noel's package's film, particularly the shrinking seal layer, in order to reinforce the polymer film's seal layer (see Dupire Abstract), which would further the goal of preventing the failure of the shrink film as described by Noel (see col. 1, lines 13-54) since reinforcing the seal layer necessarily reinforces the seal.

With respect to Claims 4 and 5, Dupire teaches that the shrink tension of the film is 50 to 350 p.s.i. according to ASTM 2838 (a shrink tension at 185°F of at least 100 p.s.i. [Claim 4]; at most 250 p.s.i. [Claim 5])(see col. 2, lines 41-56).

With respect to Claims 6 and 7, Dupire teaches that the shrinking is done via application of radiation heating (see col. 5, lines 51-62) and that heat setting reduces the free shrink slightly, substantially, or completely (the exposing step; decrease by at least 10%)(see col. 8, lines 9-11). Therefore, the heating process also reduces the shrink characteristic. Moreover, Dupire clarifies the relationship between shrinking and tension is based on either being unrestrained or restrained during the shrinking activity of the film (free shrink [Claim 6], shrink tension [Claim 7]) (see col. 7, lines 41-52).

With respect to Claim 13 and 14, the incorporation of Dupire's single wall carbon nanotubes into the shrinking seal layer of Noel's packaging film, as previously

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described, necessarily puts the SWCNM in one layer (at least one layer [Claim 13]/a shrink layer [Claim 14] comprising about 50% of the single-walled carbon nanotube material by weight of the total amount of single walled carbon nanotube material in the film) (see col. 4, lines 32-43).

With respect to Claims 15 and 16, Noel teaches that the seal layer is polyolefin or polyvinyl chloride and can be 3 mils. The film in whole can be 3 mils. Allowing for slightly less than 3 mils to accommodate the additional 2 layers, and with the carbon nanotube material being optionally minimal in content, the polyolefin would necessarily be > 50% in the film weight (at least 50% of one or more polyolefins [Claim 15]/vinyl plastic [Claim 16] by weight of the film) (see Noel col. 2, lines 41-56; col. 3, lines 4-9; col. 5, lines 19-34).

With respect to Claim 18, the film has 3 layers (col. 5, lines 19-25).

With respect to Claim 19, the film can be 1.8 mils (at least about 1 mil in thickness) (see col. 2, lines 41-49).

With respect to Claims 28-32, the polymer composition taught by Dupire to make a layer is taught to be less than 50% (at least about 0.01 weight % [Claim 28]/ 0.1% [Claim 29]/ 0.5% [Claim 30]/ 1% [Claim 31]/ 5% [Claim 32] (see col. 4, lines 33-43).

With respect to Claim 36, neither reference teaches that radiation as applied causes structural disruption. Additionally neither reference teaches making the film with perforations. Moreover, no motivation to do so is present, such as trying to make the film permeable. Thus, the negative limitation is also met by the objectives that the process would be optimized to.

Claims 8-12, 20-24, 27, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel et al. (US Patent No. 6,355,287) in view of Dupire (US Patent No. 6,331,265) as applied to Claim 1 above, and further in view of Dunn (US Patent No. 4,871,559).

Noel and Dupire teach applying radiation to a film as previously described.

Noel teaches heat-treating using radiation, but does not explicitly teach non-ionizing radiation, but the teaching does direct those of ordinary skill in the art to use any heating treatment (see col. 5, lines 51-63).

With respect to Claim 8 and 9, Dunn teaches application of radiation to films with food inside (see col. 6, lines 18-32). Dunn teaches that the treatment may exclude UV portions, thus leaving the balance of the radiation (applying non-ionizing radiation) (see col. 9, lines 58-66). Dunn teaches that radiation can be applied at a dose of 0.01 to 50 J/cm<sup>2</sup> (at least about 0.01mJ/cm<sup>2</sup> [Claim 8]/ 1 mJ/cm<sup>2</sup> [Claim 9]) from 0.001 to 100 milliseconds (at most 30 seconds [Claim 8]/ 10 seconds [Claim 9]) (see col. 8, lines 33-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose Dunn's non-ionizing radiation, dose, and duration in the method taught by Noel and Dupire because in accordance with Dunn's treatment, food products may be preserved in respect to microbial and/or enzymatic degrading processes, providing significant shelf-life and stability enhancements (see Dunn col. 4, lines 18-33) and because it obviates the complexities of additional safety precautions associated with ionized radiation in a production environment.

With respect to Claims 10, 11, and 12, using a value from the ranges of dose and duration provided by Dunn as previously described,  $1 \text{ J/cm}^2$  delivered during 100 milliseconds is  $(1,000 \text{ mJ})/(0.1 \text{ sec.} * \text{cm}^2) = 10,000 \text{ mJ/sec/cm}^2 = 10,000 \text{ mW/cm}^2$  (a radiation intensity of at least about 10 mW [Claim 10]/50 mW [Claim 11]/ 500 mW [Claim 12] per  $\text{cm}^2$ ).

With respect to Claim 20-23, Dunn teaches that radiation can be applied from 0.001 to 100 milliseconds (at most 30 seconds [Claim 20]/ 10 seconds [Claim 21]/ 1 second [Claim 22]/ 0.01 seconds [Claim 23]) (see col. 8, lines 33-53).

With respect to Claim 24, Dunn teaches that visible light is effective, therefore its 100% use would constitute the at least about 50% of the radiant energy (see col. 9, lines 58-66). Moreover, considering an instance of radiation as shown in Fig. 14 and that UV may be filtered as taught by Dunn, the higher energy of the visible light portion (400-700 nm) than the IR (700-1000 nm) constitutes additional examples of visible light teachings that would constitute using radiation comprising at least about 50% visible light energy.

With respect to Claim 27, Dun teaches about 1-50 pulses of light (discontinuously by at least two pulses)(see col. 10, lines 38-49).

With respect to Claim 36, none of the three references teach that radiation as applied causes structural disruption. Additionally neither reference teaches making the film with perforations. Moreover, no motivation to do so is present, such as trying to make the film permeable. Thus, the negative limitation is also met by the objectives that the process would be optimized to.

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Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel et al. (US Patent No. 6,355,287) in view of Dupire (US Patent No. 6,331,265) as applied to Claim 1 above, and further in view of Owensby (US Patent No. 6,188,043) and Ushirogouchi et al. (US Patent No. 5,691,101).

With respect to Claim 33, Noel and Dupire teach applying radiation to a film as previously described.

Noel and Dupire do not teach adding SWCNM in a way that explicitly causes structural disruption.

Owensby teaches using carbon black particles in a film to create holes by a method of applying infrared heating (see col. 6, lines 2-5) (structurally disrupt).

Owensby does not teach using SWCNM rather than carbon black.

Ushirogouchi teaches using carbon black particles and carbon nanotubes interchangeably because they both absorb light (see col. 8, line 64 through col. 9, line 4), generally describing the same materials as Owensby.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use infrared heating as taught by Owensby on carbon nanotubes in a film as taught by Ushirogouchi in order to create holes (structural disruptions) in making the film as taught by Noel and Dupire in order to utilize the strength of SWCNM assist by providing strength during the processing of the film and in order to utilize its structural disruption ability to form holes when radiated with light. By using the SWCNM for both functions, the additional presence of carbon black is not necessary because its function is served by SWCNM.



With respect to Claim 34, the portion of SWCNM to be disrupted is optimizeable as a function of the force/radiation applied to utilize the benefit of the added particle (structurally disrupt at least about 50 weight % of the SWCNM) (see Owensby col. 6, lines 22-29).

Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noel et al. (US Patent No. 6,355,287) in view of Dupire (US Patent No. 6,331,265), Owensby (US Patent No. 6,188,043) and Ushirogouchi et al. (US Patent No. 5,691,101) as applied to Claim 33 above, and further in view of Havens (US Patent No. 5,110,530).

With respect to Claims 37 and 38, Noel in view of Dupire, Owensby, and Ushirogouchi teach making a film with SWCNM in the shrinkable seal layer as previously described. Owensby teaches more layers containing the particles makes the film more permeable (comprise at least a portion of the SWCNM (see col. 6, lines 42-53).

Owensby does not explicitly teach making a striped layer in the film.

Havens teaches making a striped film of ethyl vinyl acetate by putting in a striped layer that is supported by the outer layer 16 and an inner layer 14 (discontinuous region supported by the outer layer; discontinuous regions comprise thermoplastic polymer [Claim 38]) (see col. 2, lines 5-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make a striped layer as taught by Havens incorporating the permeating particles as taught by Owensby in the film as taught by Noel in view of Dupire, Owensby, and Ushirogouchi in order to help identify the signature of the

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manufacturer via the distinctiveness of the packaging and in order to increase the permeability of the multilayer structure.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is 571-272-8517. The examiner can normally be reached on Monday through Friday 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick Butler  
Assistant Examiner  
Art Unit 1732



MICHAEL P. COLAIANNI  
SUPERVISORY PATENT EXAMINER